

## 158 CLAIMS:

- 159 1. A watertight door seal integrity verification assembly comprising:
- 160 a watertight door in a frame;
- 161 a gasket disposed in a channel around the periphery of said door;
- 162 a closure edge of said frame positioned to compress said gasket upon
- 163 latching said door shut;
- 164 a transmission line embedded in said gasket and operatively coupled to a
- 165 time domain reflectometry device;
- 166 a display assembly responsive to said time domain reflectometry device
- 167 to indicate the status of the gasket compression.
- 168 2. A watertight door seal integrity verification assembly as in claim 1, wherein
- 169 said transmission line is a twisted pair of insulated wire.
- 170 3. A watertight door seal integrity verification assembly as in claim 1, wherein
- 171 said transmission line is a coaxial cable.
- 172 4. A seal integrity checking system comprising:
- 173 an inner conductive waveguide;
- 174 a dielectric layer coaxial with said inner waveguide;
- 175 an outer conductive waveguide coaxial with said dielectric layer and said
- 176 inner waveguide;
- 177 a seal layer arranged to wrap around said outer waveguide, said dielectric
- 178 layer and said inner waveguide;
- 179 a pulse generator operatively connected to said inner and outer
- 180 waveguides; and
- 181 a pulse detector operatively connected to said inner and outer
- 182 waveguides, whereby reflected pulses are detected indicating an area where the
- 183 seal is not compressed adequately.
- 184 5. A seal integrity checking system comprising:

185 a gasket disposed around the periphery of a door;  
186 a first insulated conductive waveguide embedded in said gasket;  
187 a second insulated conductive waveguide embedded in said gasket;  
188 a pulse generator operatively connected to said first and second  
189 waveguides; and  
190 a pulse detector operatively connected to said first and second  
191 waveguides, whereby reflected pulses are detected indicating an area where the  
192 seal is not compressed adequately.

193 6. A seal integrity checking system as in claim 5, wherein said waveguides are  
194 insulated wires.